National Type Evaluation Program
Application No. 5 for Load Cells

Note: As of October 1, 2000, management of NTEP will be transferred from the National Institute of Standards and Technology (NIST) to the National Conference on Weights and Measures (NCWM). Beginning September 1, applications and fees must be submitted directly to NCWM.

Project No.	**Control No.**	**Lab No.**

Applicant

Name:

Address:

Zip Code:

Telephone: Representative:

General

Prototype Device ☐ Production Device ☐

Schematics submitted? ☐ Yes ☐ No

Operating Manual submitted? ☐ Yes ☐ No

Model:

System or Device Description:

I, the undersigned, hereby request that the load cell(s) described within this document be examined and tested for their conformance to applicable requirements of (check one):

❒ NTEP only ❒ OIML only ❒ Both NTEP and OIML

Note: NTEP reserves the right to select the laboratory assigned to do the evaluation.

A non-refundable application fee of $690 is due at the time of application. All NTEP fees are subject to change, contact the NIST Office of Weights and Measures for the latest fee schedules.

Signature_____ Title_____ Date_____

Prior to September 1, return application and fee to:
National Type Evaluation Program Applications
National Institute of Standards and Technology
100 Bureau Drive, Stop 2350
Gaithersburg, MD 20899-2350
Phone: (301) 975-4004 **Fax:** (301) 926-0647

❒ check (make check payable to "DOC/NIST")
❒ purchase order; indicate purchase order number:
_____
❒ Visa ❒ MasterCard
❒ Discover ❒ American Express
Card Number:_____
Exp. Date:_____

Name of Cardholder:
_____

Beginning September 1, return application and fee to:
National Conference on Weights and Measures (NCWM)
15245 Shady Grove Road
Suite 130
Rockville, MD 20850-3222
Phone: (240) 632-9454 **Fax**: (301) 990-9771

❒ check (make check payable to "NCWM")
Purchase orders will not be accepted.

❒ Visa ❒ MasterCard ❒ American Express

Card Number:_____
Exp. Date:_____

Name of Cardholder:
_____

Include drawings of the family of load cells, and identify the metal or metals of which the load cells are made.
At or prior to delivery of the load cell(s) for evaluation, the applicant must include load cell test data for each load cell submitted; reference NCWM Publication 14, Section 2, Part L, and/or OIML R60, Annex A.

For Administrative Use Only

Lab Test _____ Location _____

To be conducted by _____

Information Concerning the Type (provided by the manufacturer)

Load Cell Family
Model Designation: _____

Basic Design: _____

Analysis Requested

Accuracy Class:

NTEP: Single cell: ❒ I ❒ II ❒ III ❒ III L ❒ IIII
Multiple cell: ❒ I ❒ II ❒ III ❒ III L ❒ IIII

OIML: ❒ A ❒ B ❒ C ❒ D

Maximum number of load cell intervals (n_{max}): _____

Direction of loading:
❒ Tension ❒ Compression ❒ Both T & C (Universal) ❒ Beam _____

(specify directions)

Safe load limit (Lim): _____

Limits of temperature:
Upper: ❒ 40 °C ❒ Other: _____°C

Lower: ❒ -10 °C ❒ Other: _____ °C

OIML Non-humidity\ classification (NH): ❒ Yes ❒ No

Construction Material: _____

Sensitivity to Barometric Pressure Changes: _____

Mounting Configuration: _____

Load cell excitation: ❒ 4 wire ❒ 6 wire

Maximum: _____ AC ❒ DC ❒

Recommended: _____ AC ❒ DC ❒
Nominal Output: _____ mV/V

Load cell impedance: Input: _____
Output: _____

Other pertinent conditions that must be observed to obtain the specified performance (for example, electrical characteristics of the load cell), specify:

_____

_____

_____

Load Cell(s) Submitted:

Model Designation	Serial Number	Maximum Capacity, E_{max}

Various Capacities Within the Model Range:

Accuracy Class:_____					
Model	Maximum Capacity (E_{max})	Minimum Load Cell Interval v_{min}		Minimum Dead Load (E_{min})	Maximum Number of Intervals (n_{max})
		Single Cell	Multiple Cells		
Temperature Range: _____ to _____					

Various Capacities Within the Model Range:

Accuracy Class:_____					
Model	Maximum Capacity (E_{max})	Minimum Load Cell Interval v_{min}		Minimum Dead Load (E_{min})	Maximum Number of Intervals (n_{max})
		Single Cell	Multiple Cells		
Temperature Range: _____ to _____					

Secondary equipment submitted (load adapters, etc.) specify:

_____

_____

_____

Remarks: _____

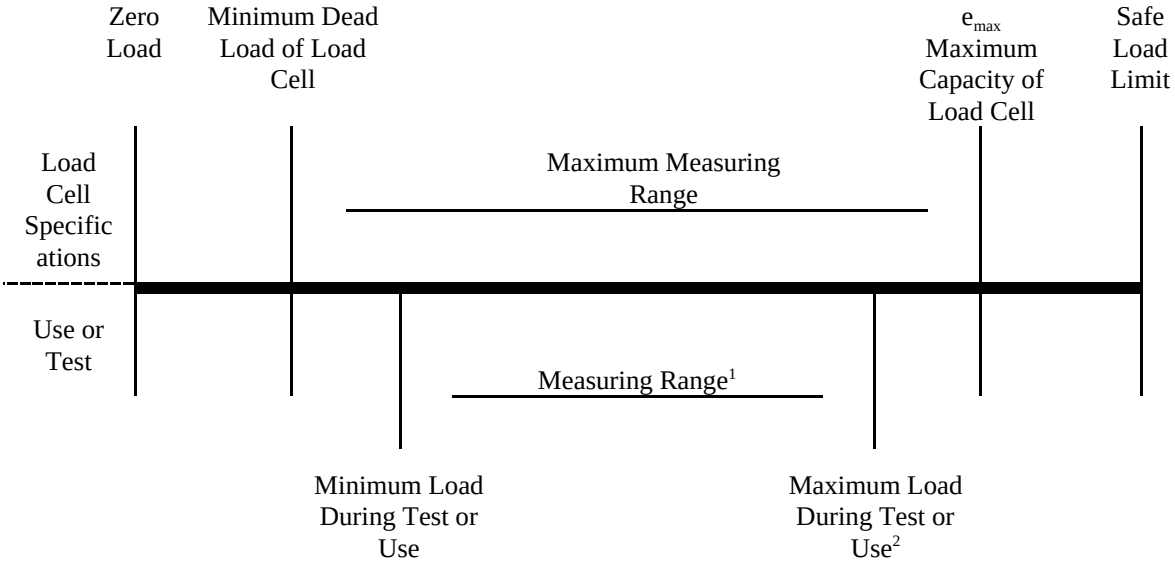
Use additional pages if required.

Terminology for Load Cell Parameters

Some of the terminology in this section of National Conference on Weights and Measures (NCWM) Publication 14 has been changed to correspond with terminology used in OIML Recommendation 60. The figure below, which is adapted from Recommendation 60, illustrates the terminology as it is used in this section. The terms above the line refer to load cell specifications; the terminology below the line is used when addressing the use or test of a load cell.

Figure 1

Illustration of Load Cell Parameters



[1] The limiting conditions for the measuring range for use or test are the minimum dead load and maximum capacity of the load cell.

[2] Maximum load for an NTEP test must be at least 90 percent of the maximum capacity of the load cell. NIST testing will not go beyond the maximum capacity of the load cell. If the manufacturers test equipment limits the loads that may be applied, the manufacturer may test to a load in excess of the maximum capacity of the load cell.